ABSTRACT OF THE DISCLOSURE

In a film forming method for forming an optical multilayer filter by detecting the

thickness of each layer by means of an optical thickness monitor (OTM) 15 and by controlling a film forming apparatus 11 based on the OTM detected output: the light source of the OTM 15 is formed by a variable wavelength light source whose wavelength is variable over the range of λ_1 nm to λ_2 nm, including λ nm; the optical thickness of each of $\lambda/4$-oriented layers is optimized within the range of $\lambda_1/4$ nm to $\lambda_2/4$ nm; the wavelength of the variable wavelength light source 12 for each layer is selected so that its transmittance reaches an extreme value at the optical thickness of each layer; and the formation of each layer is stopped upon detection of the extreme value of the transmittance.